

# **METHOD FOR GENERATING LINES FOR DART GAMES**

## **BACKGROUND OF THE INVENTION**

### 1. Field of the Invention

The present invention relates to a dart board game, and more particularly to a method for generating reference lines for dart games, and for avoiding the users from drafting reference lines or toe lines manually.

### 2. Description of the Prior Art

Various kinds of typical dart boards have been developed and comprise a number of darts areas or dart segments to be hit by darts. In addition, various kinds of dart games have been developed for being played by one or more players.

For almost all of the dart games, one or more reference lines are required to be drafted in front of the dart boards, and the players should stand behind the reference lines to play the dart games.

The distance between the reference line and the dart boards is normally ranged from about seven (7) to nine (9) feet. For example, the distance between the reference line and the dart boards is about seven (7) feet and six (6) inches in Great British, and is about seven (7) feet and nine and a quarter (9 and 1/4) inches in the United States.

However, till today, the reference lines are still drafted in front of the dart boards by the players manually, with such as chalk, pen, or the like. Before playing the dart games, the players may have to measure the distance between the reference line and the dart boards, and then may have to draft the reference lines. The reference lines drafted by chalk, pen, or the like normally may not be last for long

time.

The players may chose some of the lines or objects, that have been previously formed or provided on the ground or the like, as the reference lines. However, it will be difficult to find a support  
5 surface or a support wall to support the dart boards, and to have the support surface or the support wall to be exactly located in the required distance away from the selected lines or objects.

The present invention has arisen to mitigate and/or obviate the afore-described disadvantages of the conventional dart boards and  
10 dart games.

### **SUMMARY OF THE INVENTION**

The primary objective of the present invention is to provide a method for generating reference lines or toe lines for dart games, and for avoiding the users from drafting the reference lines or the  
15 toe lines manually.

In accordance with one aspect of the invention, there is provided a method for dart games includes one or more reference line generating devices attached to a dart board or to a wall, to generate one or more reference lines in front of the dart board as toe  
20 lines, and to avoid the users or the players from drafting the reference lines or the toe lines manually, and from drafting the reference lines or the toe lines every time when the players are going to play the dart games.

The reference line generating device includes a light generating  
25 device for generating the reference line or the toe line. A housing is provided to receive the light generating device. A circuit board may be provided to support the light generating device. A casing may be

provided in front of the housing to receive the light generating device. A lens may be provided in the casing and disposing in front of the light generating device. A passage may be provided in the casing to receive the lens therein.

5       An attaching device may be provided for attaching the reference line generating device to the dart board or to the wall, and includes at least one arm having a first end attached to the dart board, and a second end for supporting the reference line generating device, and an extension laterally extended from the first end of the  
10   arm, and secured to the dart board with at least one fastener.

Further objectives and advantages of the present invention will become apparent from a careful reading of the detailed description provided hereinbelow, with appropriate reference to the accompanying drawings.

15       **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a perspective view of a dart board assembly having a reference line generating device in accordance with the present invention;

FIG. 2 is a perspective view similar to FIG. 1, illustrating a  
20   reference line generating device attached to a wall member for generating lines for the dart board assembly;

FIG. 3 is a perspective view of the reference line generating device of the dart board assembly;

FIG. 4 is an exploded view of the reference line generating  
25   device of the dart board assembly;

FIG. 5 is a side schematic view of the reference line generating device attached to the dart board assembly;

FIG. 6 is a side schematic view similar to FIG. 5, illustrating the operation of the reference line generating device of the dart board assembly; and

FIGS. 7, 8 are side schematic views similar to FIGS. 5, 6, illustrating the operation of the reference line generating device that is attached to the wall member for generating lines for the dart board assembly.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Referring to the drawings, and initially to FIGS. 1 and 2, a method in accordance with the present invention is to provide a dart board 10 which may be directly and erectly supported on desks, or the like, or may be attached or secured onto a dart board cabinet (not shown), a supporting surface or wall 80 or the like. The dart board 10 includes a spider 11 to separate the front portion of the dart board 10 into a number of dart areas or dart segments 12 that are to be hit by darts (not shown). The dart board 10 may include a control panel 14 to control the dart games to be played by the players, for example.

The method in accordance with the present invention is to further provide and attach or secure one or more reference line generating devices 30 onto the dart board 10 (FIGS. 1, 5, 6), or onto the dart board cabinet (not shown), or onto the supporting surface or wall 80 or the like (FIGS. 2, 7, 8), with a coupling or attaching means or device 20.

For example, as shown in FIGS. 3 and 4, the attaching device 20 includes one or more arms 21 each having an extension 22 bent or extended laterally from one end thereof, and one or more orifices

23 formed in the arms 21 or extensions 22, for receiving fasteners 24 which may secure the arms 21 to the dart board 10 (FIGS. 1, 5, 6), or directly onto the supporting surface or wall 80 or the like (FIGS. 2, 7, 8).

5       The attaching device 20 further includes one or more apertures 25 formed in the other end of the arms 21, for receiving fasteners 26 which may be used to secure the reference line generating device 30 to the arms 21. For example, the reference line generating device 30 may include a housing 31 rotatably secured to the arms 21 with the  
10       fasteners 26, to allow the housing 31 of the reference line generating device 30 to be rotated and adjusted relative to the dart board 10 to any selected angular positions, best shown in FIGS. 5-8.

      The housing 31 of the reference line generating device 30 includes a chamber 32 formed therein for receiving a circuit board  
15       40 or the like therein, and includes a casing 33 provided or extended in front portion thereof. The casing 33 includes a bore 34 formed therein, and a passage 35 formed therein and intersecting or communicating with the bore 34 thereof for receiving a lens 36 therein.

20       The circuit board 40 includes a laser or light generating device 41 provided or attached thereon, and engageable into the bore 34 of the casing 33, and disposed behind the lens 36, for generating light through the lens 36, in order to generate one or more reference lines or toe lines 70 (FIGS. 1, 2). It is to be noted that the circuit board 40  
25       and the light generating device 41 may be solidly secured to the dart board 10 (FIGS. 1, 5, 6), or to the supporting wall 80 (FIGS. 2, 7, 8) at the selected angular positions with the housing 31.

The circuit board 40 may further include a lens or a hood 42 attached thereto, and disposed or secured in front of the light generating device 41, for such as light concentrating purposes. The light generating device 41 may also be arranged to generate the reference lines or the toe lines 70 without the lens 36 nor the hood 42. In addition, the reference lines or the toe lines 70 may include a predetermined length or unlimited length.

It is further to be noted that the reference lines or the toe lines 70 may be generated by the light generating device 41 and spaced from the dart board 10 at the selected distance when the housing 31 and the circuit board 40 and the light generating device 41 are solidly secured to the dart board 10 (FIGS. 1, 5, 6), or to the supporting wall 80 (FIGS. 2, 7, 8) at the selected angular position, such that the players are not required to redraft the reference lines or the toe lines again and again when playing the dart games.

The dart board 10 may be directly and erectly supported on desks or the like, or may be attached or secured onto a dart board cabinet (not shown), or may be attached or secured onto the supporting surface or wall 80 or the like. The light generating device 41 of the reference line generating device 30 may be directed toward the front portion of the dart board 10, to generate the reference lines or the toe lines 70 in front of and spaced from the dart board 10 at the selected distance.

A cover 37 may be secured to the rear or back portion of the housing 31, with such as fasteners 38, in order to stably retain the circuit board 40 within the housing 31. The circuit board 40 and/or the light generating device 41 may be coupled to various electric

power suppliers, such as the electric power supplier of the dart board 10, with such as electric wires 43, in order to be energized by various electric power suppliers.

Accordingly, the method in accordance with the present  
5 invention may provide a device for generating reference lines or toe lines for the dart boards, and for avoiding the users or the players from drafting the reference lines or the toe lines manually while playing dart games.

Although this invention has been described with a certain  
10 degree of particularity, it is to be understood that the present disclosure has been made by way of example only and that numerous changes in the detailed construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

15